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A global database of ant species abundances

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Abstract. What forces structure ecological assemblages? A key limitation to general insights about assemblage structure is the availability of data that are collected at a small spatial grain (local assemblages) and a large spatial extent (global coverage). Here, we present published and unpublished data from 51,388 ant abundance and occurrence records of more than 2,693 species and 7,953 morphospecies from local assemblages collected at 4,212 locations around the world. Ants were selected because they are diverse and abundant globally, comprise a large fraction of animal biomass in most terrestrial communities, and are key contributors to a range of ecosystem functions. Data were collected between 1949 and 2014, and include, for each geo-referenced sampling site, both the identity of the ants collected and details of sampling design, habitat type, and degree of disturbance. The aim of compiling this data set was to provide comprehensive species abundance data in order to test relationships between assemblage structure and environmental and biogeographic factors. Data were collected using a variety of standardized methods, such as pitfall and Winkler traps, and will be valuable for studies investigating large-scale forces structuring local assemblages. Understanding such relationships is particularly critical under current rates of global change. We encourage authors holding additional data on systematically collected ant assemblages, especially those in dry and cold, and remote areas, to contact us and contribute their data to this growing data set.

Key words: abundance; ants; database; disturbance; Formicidae; geo-referenced; habitat; local assemblage; occurrence; pitfall trap; Winkler trap.

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically as Supporting Information in the online version of this article at <http://onlinelibrary.wiley.com/doi/10.1002/ecy.1682/supinfo>